



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200  
Fax 613 632-5246

**SWA3-200**  
**Job Sheet 193421**



**Part No:** SWA3-200

**Job Qty:** 20 pcs

**Part Name:** Lower End



**Part Weight:** 0 lbs

**Status:** New

**Priority:** Medium

**Job Created:** 4/15/19

**Job Tracking No:**

**Due Date:** 5/2/19

**Created By:** Marie Lajeunesse

**Type:** SOLD *SLH*

**Description:**

**Note:** DWG SWA3-200 Rev 12 IPP Rev A 18.02.13 New issue DP verify DD

**Ship Via:**

### Bill of Materials

### Job Routing

| Op No | Operation        | Qty    | Start Date | Due Date | Standard  |         | Workcenter/Supplier   |           | Sign-off   |
|-------|------------------|--------|------------|----------|-----------|---------|-----------------------|-----------|------------|
|       |                  |        |            |          | Setup Hrs | Run Hrs | Workcenter / Supplier | Lead Time |            |
| 110   | NLX 2500SY - 1   | 20 pcs | 5/2/19     | 5/2/19   | 0.00      | 20.00   | NLX 2500SY - 1        |           | <i>SLH</i> |
| 115   | NLX 2500SY - B4B | 20 pcs | 5/2/19     | 5/2/19   | 0.00      | 20.00   | NLX 2500SY - 1 - B4B  |           |            |
| 120   | QC 2             | 20 pcs | 5/2/19     | 5/2/19   | 0.00      | 0.00    | QC 2 - 1              |           |            |
|       |                  |        |            |          |           |         | QC 2 - 12             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 14             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 17             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 19             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 2              |           |            |
|       |                  |        |            |          |           |         | QC 2 - 20             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 22             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 23             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 25             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 32             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 33             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 35             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 39             |           | <i>SLH</i> |
|       |                  |        |            |          |           |         | QC 2 - 4              |           |            |
|       |                  |        |            |          |           |         | QC 2 - 40             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 44             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 45             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 48             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 49             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 50             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 51             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 52             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 57             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 62             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 63             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 8              |           |            |
|       |                  |        |            |          |           |         | QC 2 - 66             |           |            |
|       |                  |        |            |          |           |         | QC 2 - 64             |           |            |



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**Container No:** S193980



**Part:** SWA3-200

**Job No:** 193421

**Serial No/Batch:** 193421

**Revision:** 12

**Inspector:**

**Exp Date:**

**Instructions:**

**Date:** 07/15/19

|     |                             |        |        |      |      |                        |                   |
|-----|-----------------------------|--------|--------|------|------|------------------------|-------------------|
| 130 | QC 8                        | 20 pcs | 5/2/19 | 0.00 | 0.00 | QC 2 - 65              |                   |
|     |                             |        |        |      |      | QC 2 - 5               |                   |
|     |                             |        |        |      |      | QC 2 - 71              |                   |
|     |                             |        |        |      |      | QC 8 - 12              |                   |
|     |                             |        |        |      |      | QC 8 - 14              |                   |
|     |                             |        |        |      |      | QC 8 - 17              |                   |
|     |                             |        |        |      |      | QC 8 - 20              |                   |
|     |                             |        |        |      |      | QC 8 - 25              |                   |
|     |                             |        |        |      |      | QC 8 - 3               |                   |
|     |                             |        |        |      |      | QC 8 - 32              |                   |
|     |                             |        |        |      |      | QC 8 - 33              |                   |
|     |                             |        |        |      |      | QC 8 - 35              |                   |
|     |                             |        |        |      |      | QC 8 - 39              |                   |
|     |                             |        |        |      |      | QC 8 - 4               |                   |
|     |                             |        |        |      |      | QC 8 - 44              |                   |
|     |                             |        |        |      |      | QC 8 - 45              |                   |
|     |                             |        |        |      |      | QC 8 - 49              | 68-6<br>30<br>SAD |
|     |                             |        |        |      |      | QC 8 - 58              |                   |
|     |                             |        |        |      |      | QC 8 - 8               |                   |
|     |                             |        |        |      |      | QC 8 - 9               |                   |
|     |                             |        |        |      |      | QC 8 - 68              |                   |
|     |                             |        |        |      |      | QC 8 - 67              |                   |
|     |                             |        |        |      |      | QC 8 - 1 (A)           |                   |
|     |                             |        |        |      |      | QC 8 - 47              |                   |
|     |                             |        |        |      |      | QC 8 - 40              |                   |
|     |                             |        |        |      |      | QC 8 - 52              |                   |
|     |                             |        |        |      |      | QC 8 - 23              |                   |
| 140 | Packaging 3-1 - Stock - B4B | 20 pcs | 5/2/19 | 0.00 | 0.00 | Packaging 3 - 1 - B4B  |                   |
|     |                             |        |        |      |      | Packaging 3 - 2 - B4B  |                   |
|     |                             |        |        |      |      | Packaging 3 - 3 - B4B  |                   |
|     |                             |        |        |      |      | Packaging 3 - 4 - B4B  |                   |
|     |                             |        |        |      |      | Packaging 3 - 5 - B4B  |                   |
|     |                             |        |        |      |      | Packaging 3 - 6 - B4B  |                   |
|     |                             |        |        |      |      | Packaging 3 - 7 - B4B  |                   |
|     |                             |        |        |      |      | Packaging 3 - 8 - B4B  |                   |
|     |                             |        |        |      |      | Packaging 3 - 9 - B4B  |                   |
|     |                             |        |        |      |      | Packaging 3 - 10 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 11 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 12 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 13 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 14 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 15 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 16 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 17 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 18 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 19 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 20 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 21 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 22 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 23 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 24 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 25 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 26 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 27 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 28 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 29 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 30 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 31 - B4B |                   |
|     |                             |        |        |      |      | Packaging 3 - 32 - B4B |                   |

|                |        |        |           |                        |             |
|----------------|--------|--------|-----------|------------------------|-------------|
|                |        |        |           | Packaging 3 - 33 - B4B |             |
|                |        |        |           | Packaging 3 - 34 - B4B |             |
|                |        |        |           | Packaging 3 - 35 - B4B |             |
|                |        |        |           | Packaging 3 - 36 - B4B |             |
| 150 QC 21 - SA | 20 pcs | 5/2/19 | 0.00 0.00 | QC 21 - SA - 21        | JUL 16 2019 |
|                |        |        |           | QC 21 - SA - 70        |             |
|                |        |        |           | QC 21 - SA - 53        |             |

Part Op 110 - Issue batch number  
 Descriptions: 115 - NLX (MORI NLX 2500SY LATHE) 1-Machine as per DWG.FC301 FOLIO REV: AA DWG REV: 9-89  
 120 - QC2- Inspect parts off machine FAI/FAIB)  
 130 - (QC8- Inspect parts - second check)  
 140 - (Identify as per dwg & Stock Location: \_\_\_\_\_)  
 150 - (QC21- Final Inspection - Work Order Release)

| Job BOM            |                          |                    |                    |           |
|--------------------|--------------------------|--------------------|--------------------|-----------|
| Part / Item        | Component Name           | Quantity           | Operation          | Container |
| M17-4-H1150-R1.500 | 17-4 SS Round Bar 1.500" | 7.2000 ft (.36 ea) | 110-NLX 2500SY - 1 | S 172007  |

| Job Allocations    |                    |          |           |           |
|--------------------|--------------------|----------|-----------|-----------|
| Operation          | Component Part     | Required | Inventory | Allocated |
| 110-NLX 2500SY - 1 | M17-4-H1150-R1.500 | 7        | 13        | 0         |

| Part Specifications                |
|------------------------------------|
| Specifications could not be found. |

Plex 4/15/19 10:06 AM Dart.lajeunesse.marie

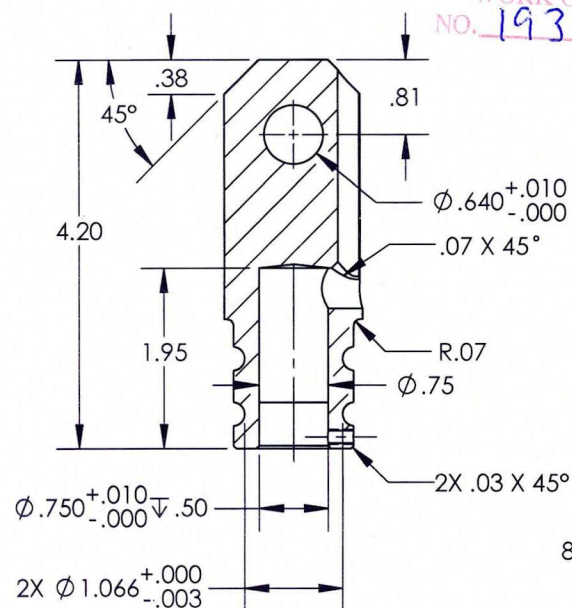
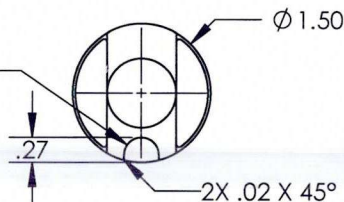


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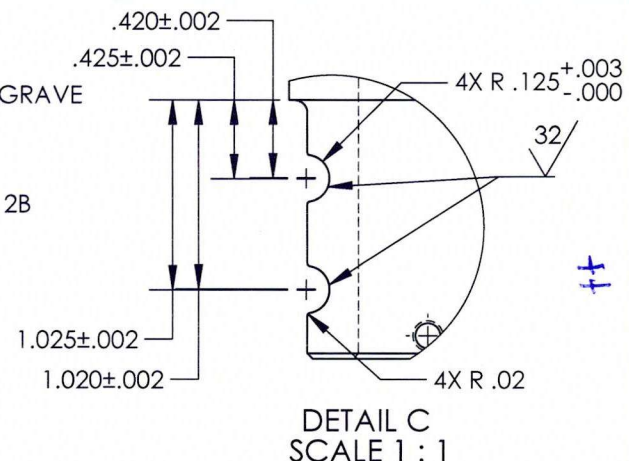
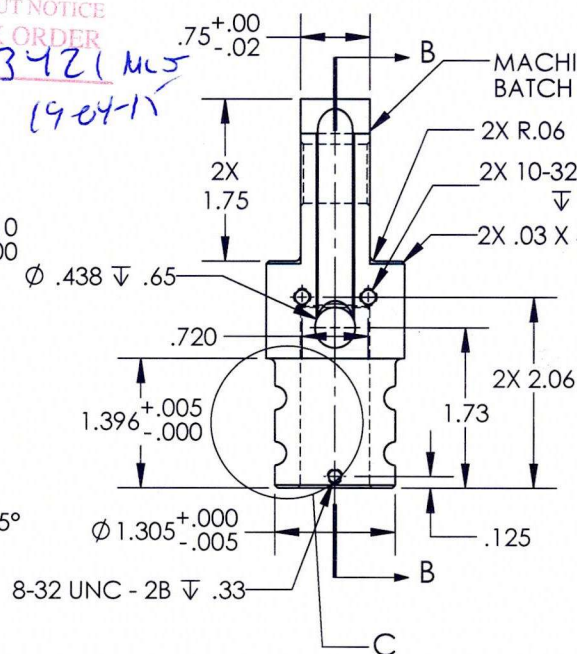


| REVISIONS |         |                                                                                                                                                                                                                                                                                                                                    |            |         |          |
|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------|----------|
| REV       | ECR     | DESCRIPTION                                                                                                                                                                                                                                                                                                                        | DATE       | INITIAL | APPROVED |
| 7         |         | AS DRAWN BY CANAM                                                                                                                                                                                                                                                                                                                  | 8/24/2012  |         |          |
| 8         |         | ADDED MISSING .750 DIM, ADDED DEPTH .500 TO Ø.750                                                                                                                                                                                                                                                                                  | 11/14/2012 | JAG     |          |
| 9         |         | DELETED .02 X 45° FROM TOP, ADDED DRILL POINT DETAIL AND (1.99) DIM.                                                                                                                                                                                                                                                               | 8/6/2013   | RJC     | GE       |
| 10        | 16-0084 | REMOVED DIMS .981, .976, .381, .376. ADDED DIMS .420±.002, .425±.002, 1.020±.002, 1.025±.002. CH'D DIM WAS 1.75 IS 2X 1.75, WAS Ø1.066+0.00/-0.03 IS 2X Ø1.066+0.00/-0.03, WAS .750 IS .75+0.00/-0.02. CH'D MATERIAL, WAS S.S. 17-4 PH, IS S.S. 17-4 H1150/H1075.                                                                  | 7/18/2016  | SM      | JAG      |
| 11        | 17-0027 | CH'D DIMS WAS .375 IS .38, WAS Ø.750 +.010/-0.00 Ψ.500 IS Ø.750 +.010/-0.00 Ψ.1.95, WAS R.069 IS R.07, WAS 2X .030 X 45° IS 2X .03 X 45°, WAS 2X 10-32 UNF -2B Ψ.500 IS 2X 10-32 UNF -2B Ψ.50, WAS 8-32 UNC -2B Ψ.328 IS 8-32 UNC -2B Ψ.33, WAS 4X R.015 IS 4X R.02. DELETED DIMS 1.95, Ø.750. ADDED NOTE MACHINE ENGRAVE BATCH #. | 2/1/2017   | RJC     | JAG      |
| 12        | 17-0146 | CH'D DIM WAS Ø.750 +.010/-0.00 Ψ.1.95 IS Ø.750 +.010/-0.00 Ψ.50. DELETED DIM (1.99). ADDED DIMS 1.95, Ø.75.                                                                                                                                                                                                                        | 6/20/2017  | RJC     | JAG      |

SHOP COPY R.188  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 193421 MJS  
(19-04-1)



SECTION B-B



DETAIL C  
SCALE 1:1

|                                                                                                                                                                                                                                                                                                                    |                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| <b>DART AEROSPACE</b>                                                                                                                                                                                                                                                                                              |                          |
| TITLE<br><b>LOWER END</b>                                                                                                                                                                                                                                                                                          |                          |
| DWG NO.<br><b>SWA3-200</b>                                                                                                                                                                                                                                                                                         | REV<br><b>12</b>         |
| MAT'L S.S. 17-4, H1150/H1075<br>HEAT TREAT<br>FINISH<br>SPEC<br>DRAWN BY: CANAM<br>CHECKED: CLOUGH<br>OPPTS APPR: ANDERSON<br>QA APPR: LINDSAY<br>APPROVED: GILBERT                                                                                                                                                |                          |
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>.XXX ± .005 FRACTIONS ± 1/8<br>.XX ± .01 ANGLES ± 5°<br>.X ± .1 SURFACES = 125/✓<br>1. BREAK ALL SHARP EDGES<br>.015 X 45° OR .015R<br>2. DIMENSIONAL LIMITS APPLY<br>AFTER PLATING<br>3. INTERPRET DIM AND TOL PER<br>ASME Y14.5M-2009<br>USED ON MODEL |                          |
| SCALE<br><b>1:2</b>                                                                                                                                                                                                                                                                                                | DATE<br><b>5/16/2006</b> |
| SHEET 1 OF 1                                                                                                                                                                                                                                                                                                       |                          |

| ASSY QTY | ASSY QTY | B/O | Part #   | UNIT QTY | Description | Material               | B/O INFORMATION OR SPECIFICATIONS | PG. |
|----------|----------|-----|----------|----------|-------------|------------------------|-----------------------------------|-----|
|          |          |     | SWA3-200 | 1        | LOWER END   | S.S. 17-4, H1150/H1075 |                                   |     |

|                                 |  |                              |
|---------------------------------|--|------------------------------|
| <b>DART AEROSPACE LTD</b>       |  | <b>Work Order:</b> 193.421   |
| <b>Description:</b> Lower END   |  | <b>Part Number:</b> SWA3-200 |
| <b>Inspection Dwg:</b> SWA3-200 |  | <b>Rev:</b> 12               |
| Page 1 of 1                     |  |                              |

### INSPECTION SHEET

| Drawing Dimension | Tolerance                 | Actual Dimension | Accept | Reject | Method of Inspection | Comments |
|-------------------|---------------------------|------------------|--------|--------|----------------------|----------|
| 4.20              | $\pm .01$                 | 4.193            |        |        | Vern LPO             |          |
| .38               | $\pm .01$                 | .380             |        |        |                      |          |
| 45°               | $\pm .5^\circ$            | 45°              |        |        |                      |          |
| 1.95              | $\pm .01$                 | 1.950            |        |        |                      |          |
| Ø .750            | $+ .01 / - .00$           | .755             |        |        | gauge pin            |          |
| Ø 1.061           | $+ .000 / - .003$         | 1.0645           |        |        | Mic 112-77           |          |
| .03 x 45°         | $\pm .01 \times .5^\circ$ | .035 x 45°       |        |        | Vern LPO             |          |
| Ø .75             | $\pm .01$                 | .752             |        |        |                      |          |
| R .07             | $\pm .01$                 | .07              |        |        | Rad gauge            |          |
| Ø .640            | $+ .01 / - .00$           | .643             |        |        | Vern LPO             |          |
| .81               | $\pm .010$                | .808             |        |        | Mic LPO              |          |
| R .188            | $\pm .005$                | .185             |        |        | Rad gauge            |          |
| .27               | $\pm .01$                 | .270             |        |        | H-gauge              |          |
| Ø 1.50            | $\pm .01$                 | 1.495            |        |        | Vern LPO             |          |
| .02 x 45°         | $\pm .01 \times .5^\circ$ | .02 x 45°        |        |        |                      |          |
| .75               | $+ .00 / - .02$           | .733             |        |        |                      |          |
| 1.75              | $\pm .01$                 | 1.747            |        |        |                      |          |
| Ø .438            | $\pm .005$                | .431             |        |        | gauge pin            |          |
| .720              | $\pm .005$                | .722             |        |        | H gauge              |          |
| 1.396             | $+ .005 / - .000$         | 1.3985           |        |        |                      |          |
| Ø 1.305           | $+ .000 / - .005$         | 1.3015           |        |        | Mic LPO              |          |
| 8-32 UNC-2B       | G0 / NO G0                | G0               |        |        | no gauge             |          |
| .125              | $\pm .005$                | .1235            |        |        | Mic LPO              |          |
| 1.73              | $\pm .01$                 | 1.723            |        |        | H-gauge              |          |
| 2.06              | $\pm .01$                 | 2.056            |        |        |                      |          |
| .03 x 45°         | $\pm .01 \times .5^\circ$ | .036 x 45°       |        |        | Vern LPO             |          |
| 10-32 UNF-2B      | G0 / NO G0                | G0               |        |        | no gauge             |          |
| .50               | $\pm .010$                | .50              |        |        | Vern LPO             |          |

|                                        |                                       |                      |
|----------------------------------------|---------------------------------------|----------------------|
| <b>Measured by:</b> <i>[Signature]</i> | <b>Checked by:</b> <i>[Signature]</i> | <b>QC Inspector:</b> |
| <b>Date:</b> 19-06-21                  | <b>Date:</b> 19/07/15                 | <b>Date:</b>         |

|                                                |              |
|------------------------------------------------|--------------|
| <b>Engineering Approval:</b><br>(If necessary) | <b>Date:</b> |
|------------------------------------------------|--------------|

| Rev | Date     | Change    | Revised by | Approved |
|-----|----------|-----------|------------|----------|
| A   | 14.07.31 | New Issue | KJ         |          |



